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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/569,310

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Jean-Pierre Lallier

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ARKEMA INC.

PATENT DEPARTMENT - 26TH FLOOR

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PHILADELPHIA, PA 19103-3222

EXAMINER

WEBB, GREGORY E

ART UNIT

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1796

MAIL DATE

DELIVERY MODE

10/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/569,310	Applicant(s) LALLIER ET AL.	
	Examiner Gregory E. Webb	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/1/08 have been fully considered but they are not wholly persuasive.
2. Concerning the Artuphel '268 reference, the examiner agrees based on the priority of the instant application, these rejection fall within 102(e). As such previous 102(b) rejection are herein withdrawn.
3. Concerning the Sekiya '846 reference, the examiner agrees with applicant's arguments. The Sekiya reference clearly does not teach the high content of butanol required by the instant claims. Furthermore, as Sekiya is not teaching cleaning compositions, there would be no motivation to modify the proportion of the composition to obtain the composition of the instant claims. As such these rejections are withdrawn.
4. Concerning the Yamada reference, the examiner does not agree with the applicant's arguments. The applicant argues that Yamada fails to teach the high concentration of the secondary butanol. While Yamada may not directly teach this high concentration, Yamada does describe process that would inherently have this high concentration. For example in the "rinse cleaning process" described by Yamada a secondary solvent is added to the fluorocarbon in amounts up to 40% as described in the following paragraph:

"The rinse cleaning agent containing the fluorinated hydrocarbon or cyclic trihydrofluorocarbon as the principal ingredient is used in accordance with the

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invention, as described above, but a single type of cyclic trihydrofluorocarbon (a single type of cyclic trihydrofluorocarbon or a mixture of two or more types of cyclic trihydrofluorocarbon) or a combination of cyclic trihydrofluorocarbon with another organic solvent can be used. Another organic solvent includes those generally used as rinse cleaning solvents, for example linear saturated hydrocarbons such as hexane, octane and isooctane; cyclic saturated hydrocarbons such as cyclopentane and cyclohexane; aromatic hydrocarbons such as toluene and xylene; lower alcohols such as methyl alcohol, ethyl alcohol, propyl alcohol, and isopropyl alcohol; ketones such as acetone and methyl ethyl ketone; ethers such as dimethyl ether and diethyl ether; esters such as vinyl acetate; acyclic hydrofluorocarbons, such as 1,1,1,2,2,3,4,5,5,5-decafluoropentane; and perfluorocarbons such as perfluorohexane and perfluoroheptane. These other organic solvents can be used singly or in combination of two or more thereof; these are used at an amount appropriately selected within a range with no adverse effects on the effect of the invention; generally, the amount is 40% by weight or less, preferably 20% by weight or less, more preferably 10% by weight or less to the total weight of the rinse cleaning agent.”

5. Clearly this paragraph renders obvious various concentrations of the secondary solvent. Although this may not be anticipation it does render obvious the applicant's combination.

6. Concerning the Kiyohara '557 reference, the examiner agrees with the applicant's arguments and withdraws previous rejections.
7. Concerning the Tsuzaki '456 reference, the applicant argues there would be no motivation to create a composition with a high amount of the butanol. The examiner disagrees.

"To adjust mainly the solvency, it is preferred, for example, to add at least one of the following compounds in an amount of at most 40 wt % to the composition of the present invention. More preferably, the amount is from 0.1 to 30 wt %, and most preferably, the amount is from 0.1 to 20 wt %...."

"Alcohols such as methanol, ethanol, 1-propanol, 2-propanol, 1-butanol, 2-butanol, isobutanol or t-butanol. ..."

"In order to increase primarily the stability, it is preferred to add, for example, at least one of the following compounds in a proportion of at most 5 wt % to the composition of the present invention. A more preferred ratio is from 0.001 to 5 wt %."

8. Although the examiner agrees this may not anticipate the applicant's instant claims. One skilled in the art of chemistry would have good reason to pursue the know options within his or her technical grasp. In this case it would have been well within a

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chemist skill to attempt the use of higher concentrations of secondary solvents including the secondary butanol. A chemist would in an effort to stabilize the composition attempt various concentrations of these compounds.

9. Concerning the '035 Hanada reference, the examiner agrees this reference does not anticipate or render obvious the instant claims.

10. Concerning the Behr '090 reference, Behr clearly teaches the addition of alcohols as a co-solvent as can be seen in the following paragraph:

“A co-solvent can be included in the composition to modify or enhance the physical or chemical properties of the composition, including solvency and flash point, for a particular use. Useful co-solvents include alcohols, ethers, alkanes including cycloalkanes, alkenes, perfluorocarbons, perfluorinated tertiary amines, perfluoroethers, esters, ketones, aromatics, siloxanes, hydrochlorocarbons, hydrochlorofluorocarbons, and hydrofluorocarbons. Representative specifically useful examples of co-solvents which can be used in combination with the ether within a cleaning composition include methanol, ethanol, isopropanol, t-butyl alcohol, isobutyl alcohol, methyl t-butyl ether, methyl t-amyl ether, 1,2-dimethoxyethane, cyclohexane, 2,2,4-trimethylpentane, n-decane, terpenes (e.g., α -pinene, camphene, and limonene), trans-1,2-dichloroethylene, methylcyclopentane, decalin, methyl decanoate, t-butyl acetate, ethyl acetate, diethyl phthalate, 2-butanone, methyl isobutyl ketone, toluene, p-chlorobenzotrifluoride, trifluorotoluene, hexamethyl disiloxane, octamethyl

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trisiloxane, perfluorohexane, perfluoroheptane, perfluorooctane, perfluorotributylamine, perfluoro-N-methyl morpholine, perfluoro-2-butyl oxacyclopentane, methylene chloride, chlorocyclohexane, 1-chlorobutane, 1,1-dichloro-1-fluoroethane, 1,1,1-trifluoro-2,2-dichloroethane, 1,1,1,2,2-pentafluoro-3,3-dichloropropane, 1,1,2,2,3-pentafluoro-1,3-dichloropropane, 2,3-dihydroperfluoropentane, 1,1,1,2,2,4-hexafluorobutane, 1-trifluoromethyl-1,2,2-trifluorocyclobutane, 3-methyl-1,1,2,2-tetrafluorocyclobutane, 1-hydropentadecafluoroheptane, 1,3-bis(trifluoromethyl)benzene, 1,4-bis(trifluoromethyl)benzene, and bromopropane.

Co-solvent can be included in the composition in any useful weight ratio (as defined by the weight of the ether to co-solvent), and can preferably be included in an amount such that the resulting composition exhibits essentially no flash point. Of course the exact amounts of ether and co-solvent will depend on many factors, including the specific application for which the composition is intended, the identity of each of the ether and the co-solvent, the presence of other ingredients such as a surfactant, etc., and even the operating conditions under which the composition is expected to be used. Still, by way of specific example, preferred cleaning compositions include from about 50 to 99 parts by weight perfluoroalkyl haloalkyl ether per 100 parts by weight of combined ether and co-solvent, with a preferred amount of ether per cosolvent being from about 75 to 99 parts by weight ether per 100 parts by weight of combined ether and co-solvent."

11. The examiner argue that the teachings of Behr render obvious composition beyond the preferred embodiment of Behr. One of ordinary skill in chemistry would posses the technical grasp to vary the amount of a two part composition. Thus it would be an obvious variation of Behr to use higher amounts of the co-solvent.

Claim Rejections - 35 USC § 102/103

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 1-10 are rejected under 35 U.S.C. 102(e) or alternatively under 35 U.S.C. 103(a) as being rendered obvious by Artuphel (US 20060052268).

Concerning the butanol, DMSO, and secondary butanol, Artuphel, Benoit teaches the following:

“2. Composition according to claim 1, comprising from 1 to 88% by weight of **fluorinated base**, from 5 to 94% by weight of diacetone alcohol, and from 5 to 70% by weight of **dimethyl sulfoxide** and/or of **secondary butanol**.”

Concerning the cleaning, and defluxing, Artuphel, Benoit teaches the following:

“[0033] Without the applicant being held to an explanation, it thinks that the **DMSO** and/or **secondary butanol** in the **cleaning** bath promotes conversion of the oil present on the surface to droplets. The DAA detaches the droplets and plays the role of detergent. It has been found that the **secondary butanol** has a particularly beneficial effect for removal of solder **fluxes**. It constitutes, with the DAA, a very good additive to the **fluorinated base** for this application. When the **fluxes** are very difficult to remove, the incorporation of **DMSO** also makes it possible to increase the polarity and to attain very good effectiveness.”

Concerning the trans-1,2-dichloroethylene, and dichloroethylene, Artuphel, Benoit teaches the following:

“6. Composition according to claim 1, wherein said **fluorinated base** further comprises **trans-1,2-dichloroethylene**.”

14. Claims 1-10 are rejected under 35 U.S.C. 102(b) or alternatively under 35 U.S.C. 103(a) as being rendered obvious by Yamada (US 6,312,759).

15. Concerning the combination of the fluorinated base and the secondary butanol, Yamada teaches the following:

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“The azeotropic temperature of the azeotropic composition of 1,1,2,2,3,3,4-hepta**fluoro**cyclopentane and **2-butanol** is 79.degree. C., wherein the composition ratio of **2-butanol** is 8.4% by weight.”

16. Claims 1-10 are rejected under 35 U.S.C. 102(b) or alternatively under 35 U.S.C. 103(a) as being rendered obvious by Tsuzaki (US 5,989,456).

Concerning the fluorinated base, and preferred fluorinated base, Tsuzaki, Masaaki teaches the following:

Hydrochloro**fluoro**carbons such as 2,2-dichloro-**1,1,1-trifluoroethane** and 1,1-dichloro-**1-fluoroethane**.

Concerning the cleaning, and defluxing, Tsuzaki, Masaaki teaches the following:

Further, the solvent composition of the present invention has a solvency of the same level as the conventional R225 and can suitably be employed for various applications. Specific applications include, for example, a **cleaning** agent for removing a soil such as grease, oil, **flux**, wax, ink or dust, a dewatering agent for removing water attached to a solid surface, a solvent for chemical reaction such as polymerization, a carrier solvent for various chemical substances, a solvent for extraction, a solvent for coating, a solvent for dry **cleaning**. It is particularly useful as a **cleaning** agent for removing a soil derived

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from a lubricant or a releasing agent.

Concerning the butanol, and secondary butanol, Tsuzaki, Masaaki teaches the following:

Alcohols such as methanol, ethanol, 1-propanol, 2-propanol, 1-**butanol**, **2-butanol**, **isobutanol** or t-**butanol**.

Concerning the trans-1,2-dichloroethylene, and dichloroethylene, Tsuzaki, Masaaki teaches the following:

Chlorinated hydrocarbons, such as dichloromethane, cis-1,2-**dichloroethylene**, **trans-1,2-dichloroethylene**, trichloroethylene and tetrachloroethylene.

17. Claims 1-10 are rejected under 35 U.S.C. 102(b) or alternatively under 35 U.S.C. 103(a) as being rendered obvious by Behr (US 6,552,090).

18. Concerning the trans-1,2-dichloroethylene, preferred fluorinated base, butanol, and dichloroethylene, Behr, Frederick E. teaches the following:

“A co-solvent can be included in the composition to modify or enhance the physical or chemical properties of the composition, including solvency and flash point, for a

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particular use. Useful co-solvents include alcohols, ethers, alkanes including cycloalkanes, alkenes, perfluorocarbons, perfluorinated tertiary amines, perfluoroethers, esters, ketones, aromatics, siloxanes, hydrochlorocarbons, hydrochlorofluorocarbons, and hydrofluorocarbons. Representative specifically useful examples of co-solvents which can be used in combination with the ether within a cleaning composition include methanol, ethanol, isopropanol, t-butyl alcohol, isobutyl alcohol, methyl t-butyl ether, methyl t-amyl ether, 1,2-dimethoxyethane, cyclohexane, 2,2,4-trimethylpentane, n-decane, terpenes (e.g., α -pinene, camphene, and limonene), trans-1,2-dichloroethylene, methylcyclopentane, decalin, methyl decanoate, t-butyl acetate, ethyl acetate, diethyl phthalate, 2-butanone, methyl isobutyl ketone, toluene, p-chlorobenzotrifluoride, trifluorotoluene, hexamethyl disiloxane, octamethyl trisiloxane, perfluorohexane, perfluoroheptane, perfluorooctane, perfluorotributylamine, perfluoro-N-methyl morpholine, perfluoro-2-butyl oxacyclopentane, methylene chloride, chlorocyclohexane, 1-chlorobutane, 1,1-dichloro-1-fluoroethane, 1,1,1-trifluoro-2,2-dichloroethane, 1,1,1,2,2-pentafluoro-3,3-dichloropropane, 1,1,2,2,3-pentafluoro-1,3-dichloropropane, 2,3-dihydroperfluoropentane, 1,1,1,2,2,4-hexafluorobutane, 1-trifluoromethyl-1,2,2-trifluorocyclobutane, 3-methyl-1,1,2,2-tetrafluorocyclobutane, 1-hydropentadecafluoroheptane, 1,3-bis(trifluoromethyl)benzene, 1,4-bis(trifluoromethyl)benzene, and bromopropane."

19. In each of these references a combination of a fluorinated solvent and the secondary alcohol are taught. These references are each related to solvent cleaning and or rinsing. In each of these references a preferred range of each compound is taught. It may be that these ranges differ from the applicant's instant invention. However it should be noted that varying the amount of a two component system is not a difficult process. Further it is a very ordinary process to vary components concentrations to improve either the performance or cost of the composition. Therefore it would have been at least obvious to form a two part composition containing various amounts of the two components. This is well within the technical grasp and common sense of any chemist.

Conclusion

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 571-272-1325. The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory E. Webb/
Primary Examiner, Art Unit 1796

Gregory E. Webb
Primary Examiner
Art Unit 1796

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